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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,523

10/27/2003

Eugene Fischer

36062

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11/02/2004

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EXAMINER

HAM, SEUNGSOOK

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,523

Applicant(s)

FISCHER, EUGENE

Examiner

Seungsook Ham

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figures 1-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ammar et al. (US '404) in view of Oh et al. (US Pat. Appl. Pub. '360) or Zhang et al. (US '533).

Ammar et al. (figs. 4-9) discloses the same millimeter wave filter except each hairpin resonator forms folded back upon itself into substantially parallel resonator lines.

Oh et al. (figs. 1 and 2) discloses a similar microstrip line filter having a plurality of parallel hairpin resonators 4, each formed from a single microstrip and folded back

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upon itself into substantially parallel resonator lines to reduce the size of the filter (paragraph [0009]).

Zhang et al. (figs. 6 and 7) also discloses a similar microstrip line filter having a plurality of parallel hairpin resonators 106a-106h, each formed from a single microstrip and folded back upon itself into substantially parallel resonator lines to reduce the size of the resonator/filter (col. 7, lines 42-43).

Therefore, it would have been obvious to one of ordinary skill in the art to provide hairpin resonators, each resonator having a single microstrip with folded parallel resonator lines instead of the conventional hairpin resonators in the device of Ammar et al. to reduce the size of the filter as taught by Oh et al. or Zhang et al.

The size of the filter and the number of parallel resonator lines as recited claims 2, 9, 14 and 18 are considered as obvious design modifications to obtain a desire filter response and require only a routine skill in the art.

The method step in claim 22 is implicit from the modified device of Ammar et al.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ammar et al. (US '404) in view of Matthaei (US Pat. Appl. Pub. '732).

Ammar et al. (figs. 4-9) discloses the same millimeter wave filter except each hairpin resonator forms folded back upon itself into substantially parallel resonator lines.

Matthaei (figs. 9A and 11) discloses a similar microstrip line filter having a plurality of parallel hairpin resonators 102, each formed from a single microstrip and folded back upon itself into substantially parallel resonator lines to reduce the size of the

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filter (paragraph [0088]). Moreover, Matthaiei shows each hairpin resonator having at least six substantially parallel resonator lines 118.

Therefore, it would have been obvious to one of ordinary skill in the art to provide hairpin resonators, each resonator having a single microstrip with folded parallel resonator lines instead of the conventional hairpin resonators in the device of Ammar et al. to make the filter more compact as taught by Matthaiei.

The size of the filter as recited claims 9 and 18 is considered as obvious design modification to obtain a desire filter response and requires only a routine skill in the art.

The method step in claim 22 is implicit from the modified device of Ammar et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aiga et al. (US Pat. Appl. Pub. '738) and Sasaki et al. disclose a microstrip line filter having a plurality of folded microstrip resonator lines.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Han
Primary Examiner
Art Unit 2817

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